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North American Wildland Plants, Third Edition

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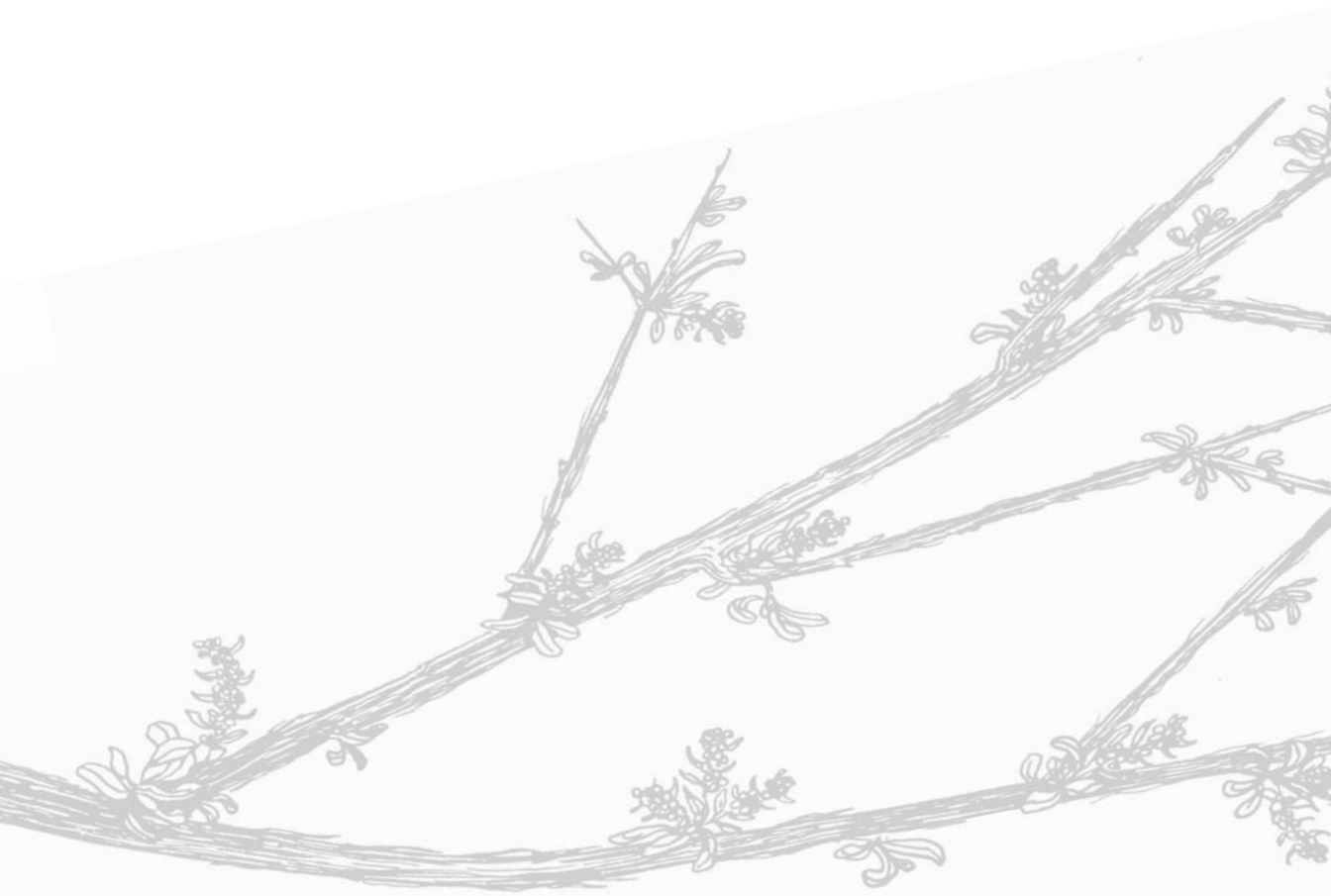

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Wildland Plants

THIRD EDITION A FIELD GUIDE

Illustrated by *Neal M. Bryan, Angie Fox, Kelly L. Rhodes Hays, Bellamy Parks Jansen,* and *Debra Meier*

Maps by *Kathleen Lonergan-Orr* and *Neal M. Bryan*

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Set in Arno Pro by L. Auten.

To students striving to understand the complex nature of the plant world.

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GRASSLIKE PLANTS

FORBS AND WOODY PLANTS

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NORTH AMERICAN WILDLAND PLANTS

Introduction

A comprehensive reference containing the important characteristics of the most important wildland plants of North America is critical for ecologists, range managers, land managers, and other natural resource professionals. In addition, university students and range plant identification teams needed a single, primary resource for learning about important wildland plant species. *North American Range Plants* was developed to meet these needs and was first published in 1981. Subsequent editions (1982, 1986, 1992, 1997) included changes in nomenclature, refinement of distributions, additional information on each of the species, and new illustrations. The illustrations were prepared to highlight general and specific characteristics to aid identification of the featured range plants. The fifth edition (1997) reflected changing attitudes toward riparian areas and wetlands. Reflecting this increased concern and interest, about 10 percent of the species included in this book occur on these sites. *North American Wildland Plants* (2003, 2011) included many nomenclatural changes, and the illustrations were labeled to accentuate specific characteristics. The title change reflected the importance of plants across ecosystems and the multiple uses of the plant resources within ecosystems. This edition contains additional refinements in the nomenclature, distribution, illustrations, and descriptions of plants. This reference will help both individuals with limited botanical knowledge and natural resource professionals to identify wildland plants.

The two hundred species in this book were selected because of their abundance, desirability, or noxious properties; in short, they are important wildland species. The list of plant species was developed over the course of nearly sixty years by faculty from the universities and colleges with rangeland management and ecology programs and by coaches of range plant identification teams. The formal list is now the Master Plant List for the International Range Plant Identification Contest sponsored by the Society for Range Management (6901 South Pierce Street, Littleton CO 80128; www.rangelands.org).

Plant species descriptions in this book include characteristics for their identification, a labeled illustration of a typical plant (with enlarged plant parts), and a general distribution map for North America. Each species description includes nomenclature; life span; origin; season of growth; inflorescence, flower or spikelet or other reproductive parts; vegetative parts; and growth characteristics. Forage values for wildlife and livestock are estimated. Brief notes are included on habitat; livestock losses; and historical, food, and medicinal uses. Information on historical, food, and medicinal uses was gathered from numerous sources and is presented as a point of interest and to broaden readers' appre-

ciation of these plants. It is strongly emphasized that these plant species should not be used for these purposes.

Grasses (POACEAE family) are described first and are aligned by tribe, genus, and specific epithet in alphabetical order by rank. Grasslike plants (CYPERACEAE and JUNCACEAE families) are next. All other families follow in alphabetical order by rank for family, genus, and specific epithet with the exception of members of the ASTERACEAE family, which are aligned as the POACEAE family.

The grass (POACEAE) and composite (ASTERACEAE) families are treated by tribe to help the reader relate to smaller groups within these large, complex families. Recognition of species within tribes builds a concept of tribal characteristics. When an unknown species of either family is encountered, knowledge of tribal alignments below family may reduce the time required for making an identification using a diagnostic key.

Classification generally follows Tropicos (www.tropicos.org), sponsored by the Missouri Botanical Garden. Tropicos is the world's largest botanical database.

Numerous authoritative floristic treatments from the wildland areas of North America were consulted for species names and authorities. Selected synonyms, noting other names for the same species, are included on the illustration page for each species to help clarify the species concept used in this text. The synonyms will help in finding additional information in other floristic treatments.

Common and alternative common names are given for the plants, but they may not include the common name used in a particular area. Common names were restricted to two words, sometimes resulting in long and cumbersome words. Common names used in Mexico are listed for the appropriate taxa and may exceed two words.

The origin of each species is given as native or introduced. Origins of introduced taxa are given parenthetically. Many species are known to be introduced, while others are thought to have been introduced. *Poa pratensis* L. is an example of a species that is listed as introduced but may be both native and introduced to North America.

Season of growth is listed as cool, warm, or evergreen. Cool-season plants complete most of their growth in the autumn, winter, and spring. Warm-season plants grow most in the summer when temperatures are the highest. The evergreen plants retain their ability to grow whenever climatic conditions are suitable. A summary of this information may be found in the Checklist of Wildland Plants included in this book.

Plant characteristics for each species are separated into categories to help in making comparisons between species. Bold type is used in this edition to emphasize important characteristics that separate species. These characteristics are intended to be useful to students preparing to compete in the International Range Plant Identification Contest and to amateur botanists. Conservative characteristics, those that are not greatly influenced by the environment, should be the basis for identification. These may include floral, spikelet, leaf, and inflorescence type but may vary with the species. Pubescence, ligule lengths, and awn lengths are highly variable characteristics, and primary importance should not be placed on these when identifying grasses. Presence or absence of rhizomes is another

variable characteristic that is somewhat dependent upon moisture, other features of the habitat, and techniques used by the collector.

Forage values of the plants discussed in this book are relative values that vary with the type of animal utilizing the particular plant species. Values are determined on the basis of palatability, nutrient content, and the amount of forage produced by the plant species. These values may vary with the climatic conditions, the part of North America where the plant is growing, when the forage is consumed, associated plant species, and the age and class of each animal species utilizing the forage.

Losses due to poisonous plants, one of the major problems facing the livestock industry in some regions, are included in these plant descriptions. Annual losses on wildlands amount to hundreds of millions of dollars, with the effects of poisonous plants varying from slightly reduced rate of gain to deformities or death of the animal. Losses that are easy to document, such as death, are not as economically important as the losses wherein growth rate or milk production is reduced. The brief mention of livestock losses in this book include the animals affected and the type of poison, commonly referred to as the poisonous principle, contained in the plant species.

This book includes a glossary, list of nomenclature authorities, list of selected references, and a checklist of the species. This supplementary information will give the student, professional natural resource manager, and anyone else interested in plants a more complete knowledge of plants and a starting place in the literature to seek additional information. The index is comprehensive, including all scientific and common names used in the text.

The information contained in *North American Wildland Plants* is by no means complete. The authors have opted for brevity with the expectation that this book will be a starting point for those interested in wildland plant identification. Plant taxonomists and extension personnel in each locality can provide additional information on plant species of interest.